

REMARKS

1. Response to Drawings Objections

In response to the objections raised by the Examiner to FIGS. 1 and 2, Applicants have amended FIGS. 1 and 2 to designate them as "Prior Art." No new matter has been added as a result of the amendments to the drawings.

2. Response to Claims Objections

The Examiner has objected to pending claims 1 and 16 because of certain informalities. Claims 1 and 16 have been canceled and replaced by a new set of claims. The new claims presented do not contain the aforementioned informalities. Therefore, the Examiner's objection to claims 1 and 16 has been addressed.

3. Response to Claim Rejections under 35 U.S.C. § 112, second paragraph

Claims 1-19 are rejected as indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The Examiner has raised several indefiniteness-related issues with respect to the claims. Claims 1-19 have been canceled and replaced by new claims 20-33. The indefiniteness-related issues raised by the Examiner have been addressed in new claims 20-33 presented herein.

4. Response to Claim Rejections under 35 U.S.C. § 102(b)

A. The Examiner has rejected claims 1, 4-6, 9-11 and 14 as being anticipated by Winquist (Analytic Chimica Acta 1997, hereinafter referred to as "Winquist '97"). According to the Examiner, Winquist '97 teaches an electronic tongue based on voltammetry and anticipates the claimed invention. Applicants respectfully disagree with Examiner's analysis and respond as follows:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, *i.e.*, identity of terminology is not required. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

The claims (as amended) recite methods of detecting the **concentration** of urea in liquids. Winqvist '97 teaches only the **qualitative analysis** of samples such as milk, fruit juice and the like. *See* Winqvist '97 at page 30, col. 1 under "Conclusions" ("The aim and purpose of the experiments described have not been to develop a complete analytical system, merely to investigate the possibilities of using pulse voltammetry combined with multivariate analysis for **classification** purposes."). Winqvist '97 does not teach or disclose that an electronic tongue may be used for the quantitative measurement of a component species (specifically urea) in a liquid. Inasmuch as Winqvist '97 fails to recite all of the limitations of the claimed invention, Winqvist '97 does not anticipate the claimed invention.

B. The Examiner has rejected claims 1, 4-7, 9-11, 14 and 16-17 as being anticipated by Winqvist (Measurement Science and Technology 1998, hereinafter referred to as "Winqvist '98"). According to the Examiner, Winqvist '98 anticipates the claimed invention. Applicants respectfully disagree with Examiner's analysis and respond as follows:

The claims (as amended) recite methods of detecting the **concentration** of urea in liquids. Winquist '98 teaches an electronic tongue that is used to follow the deterioration in the quality of milk due to microbial growth when milk is stored at room temperature. *See* Winquist '98 at page 1938, col. 1. Winquist '98 does not teach or disclose that an electronic tongue may be used for the quantitative measurement of a component species (specifically urea) in a liquid. Inasmuch as Winquist '98 fails to recite all of the limitations of the claimed invention, Winquist '98 does not anticipate the claimed invention.

2. Response to Claim Rejections under 35 U.S.C. § 103

Claims 2-3, 12-13, 15 and 18-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Winquist '97 or Winquist '98 and further in view of Bouzid and Locatelli. Applicants respectfully disagree with Examiner's analysis and respond as follows:

To establish a prima facie case of obviousness, **three basic criteria** must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference(s) when combined must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

A Motivation to Combine Must Be Shown

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion,

or motivation to do so in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). A mere conclusory statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). The Federal Circuit in *In re Zurko*, 258 F.3d 1379, 1385 (Fed. Cir. 2001), noted that “deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is ‘basic knowledge’ or ‘common sense’ to one of ordinary skill in the art. *Id.* at 1697. In other words, *In re Zurko* expressly proscribes any reliance by an examiner on what constitutes the knowledge of one skilled in the art, when the assessment of that knowledge is not based on any evidence in the record. More recently, the Federal Circuit reiterated this position in *In re Lee*, where it took issue with the fact that “neither the examiner nor the Board adequately supported the selection and combination of the ... references to render obvious that which [patentee] described.” *In re Lee*, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002).

If a proposed modification would render the prior art teaching being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

There Must Be a Reasonable Expectation of Success

The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d

1091 (Fed. Cir. 1986). Evidence showing that there is no reasonable expectation of success supports a finding of nonobviousness. *In re Rinehart*, 531 F.2d 1048 (C.C.P.A. 1976).

All Claim Limitations Must Be Taught or Suggested

To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). In other words, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382 (C.C.P.A. 1970). If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

The Examiner has not established a *prima facie* case of obviousness. The Examiner has failed to demonstrate any of the criteria required for a showing of *prima facie* obviousness, particularly, the requirements that there be a suggestion or motivation to modify the cited references or combine the reference teachings, and that all of the claim limitations be taught or suggested by the prior art. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990).

The claimed invention (as set forth in the amended claims) is drawn to a method of detecting the concentration of urea in a liquid. None of the cited references (Winqvist '97, Winqvist '98, Bouzid and Locatelli) either individually or in combination, teach the invention as claimed. As set forth above, Winqvist '97 and Winqvist '98 do not teach the quantitative analysis of a component species in a liquid. This deficiency is not rectified

by either Bouzid or Locatelli. **Therefore, the combination of the cited references do not teach or suggest all of the claim limitations** as required by *In re Royka*.

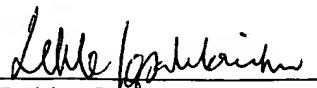
Furthermore, the Examiner has combined the Winquist references with Bouzid and Locatelli references without making a showing of the requisite motivation to do so. Under the teachings of *In re Fine*, *In re Zurko* and *In re Lee*, mere conclusory assertions stating that the references relied upon teach all aspects of the claimed invention is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. However, notwithstanding the improper combination of the references, Applicants respectfully submit that the combination of Winquist references with Bouzid and Locatelli does not result in the claimed invention.

CONCLUSION

In conjunction with the claim amendments and arguments set forth above, Applicants believe that they have addressed all of the Examiner's concerns and rejections. Applicants believe that the claims are now in condition for allowance and respectfully request that the Examiner grant such an action. If any questions or issues remain in the resolution of which the Examiner feels will be advanced by a conference with the Applicant's attorney, the Examiner is invited to contact the attorney at the number noted below.

No fees are due in connection with this response. If however any fees are due in connection with this paper, the Commissioner is hereby authorized to charge these fees and/ or credit any overpayment, to Deposit Account 10-0447 (Reference No. 45687-00082).

Respectfully submitted,



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Date: March 15, 2004

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